



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

EPA Region 5 Records Ctr.



357083

REPLY TO THE ATTENTION OF:

May 7, 2008

C-14J

By Email and Regular Mail

Thomas L. Cabbage
Covington & Burling
1201 Pennsylvania Ave. NW
Washington, D.C. 20004-2401

Re: Tronox Request for Assisted Negotiations Concerning DuSable Park

Dear Mr. Cabbage:

This letter responds to your letter dated February 14, 2008, in which you condition Tronox LLC's ("Tronox") participation in any Administrative Settlement Agreement and Order on Consent ("ASAOC") for DuSable Park on the use of an alternative dispute resolution ("ADR") process. U.S. EPA is encouraged that Tronox is willing to discuss its voluntarily joining in the ASAOC for DuSable Park. However, EPA is unwilling to renegotiate the health risk-based cleanup standard or the verification sampling methodology that EPA has used for years at the Lindsay Light II sites in Chicago and in the Kerr-McGee National Priorities List Sites in West Chicago.

You explain that Tronox is reluctant to enter into any agreement in connection with DuSable Park because you believe: the ASAOC lacks direct evidence that thorium materials associated with historic Lindsay Light Company ("Lindsay Light") activities have been found in DuSable Park; the 2002 soil samples collected in DuSable Park contain coal ash which contain naturally occurring radioactive material; and Tronox has been frustrated over the way U.S. EPA has construed provisions of the Unilateral Administrative Order for the Lindsay Light II Site, Docket No. V-W-96-C-35, dated June 6, 1996 ("UAO").

It is disappointing that Tronox continues to advance the patently specious argument that because there are no Lindsay Light mill tailing disposal records, there is no evidence that Lindsay Light generated the thorium contamination in Streeterville. By choosing to make this claim over and over, in the face of a multitude of facts to the contrary, Tronox leads the agency to believe that Tronox is not interested in good faith negotiations, but the company is simply strategizing to delay the negotiations and cleanup. Abundant evidence indicates that the thorium contamination located at DuSable Park is associated with historic Lindsay Light activities and is not naturally occurring material. You are well aware that by 1914, when Lindsay Light was located in the Streeterville area of

Chicago, Lindsay Light reportedly was one of the world's largest manufacturer's of thorium nitrate. As you know, Lindsay operated in Chicago until approximately 1936 when it relocated to West Chicago. You are also well aware that, to date, approximately 50,000 cubic yards of Lindsay Light thorium contaminated materials have been discovered and removed from the surrounding Streeterville area. As you point out, U.S. EPA does not have records of Lindsay Light's thorium mill tailings disposal practices in Chicago. However, Lindsay Light thorium contaminated material was discovered at 316 E. Illinois (a former location of Lindsay Light's ore processing plant) as well as ten additional removal action operable units associated with the Lindsay Light facility. DuSable Park is located in close proximity to the Lindsay Light 316 E. Illinois site as well as the other Streeterville sites where Lindsay Light contamination has been discovered and removed.

Historical information indicates that, over the years dating back to 1880, DuSable Park has been used for a variety of purposes including storage of lumber, coal, sand, gravel and general freight as well as housing paper recycling operations. Additions to fill on the site may have come from on-site demolition, Chicago-fire debris, other building demolition rubble, residual demolition fill from adjacent Chicago Dock and Canal Trust Properties and other nearby downtown Chicago construction projects. Any of these historic filling activities could have transported Lindsay Light material to DuSable Park.

More compelling than, historic filling activities however, are the more recent discoveries of thorium contaminated material at DuSable Park. You are aware that in 2002, your predecessor, Kerr-McGee Corporation, performed a gamma radiation surface survey at DuSable Park and detected elevated levels of thorium contamination. Kerr-McGee followed-up with a limited removal of the identified thorium contamination; however, contamination remained in five areas at DuSable Park. In June 2007, both U.S. EPA and STS confirmed the presence of the five remaining areas. Additionally, in October 2007, STS identified another area of thorium contaminated material at DuSable Park. EPA's soil sample results from that area revealed total Ra-228/Ra-226 concentration of 180 pico Curies per gram (pCi/g) of which 150 pCi/g were due to Ra-228. On March 10, 2008, STS discovered another area at DuSable Park that exhibited elevated gamma readings of approximately 70,000 counts per minute (cpm) and a total Ra-228/Ra-226 concentration of 451 pCi/g of which 440 pCi/g were due to Ra-228. The most recent discovery of thorium contamination occurred on March 26, 2008, when STS discovered an area in the southern mound of approximately 10' x 10' that exhibited gamma readings up to 23,000 cpm. Material with total Ra-228/Ra-226 concentrations of 180 to 451 pCi/g skewed to Ra-228, as noted above, cannot be quantified as naturally occurring. Rather, it is clear that the material is thorium process related waste material. These recent discoveries reaffirm the need to fully investigate DuSable Park and to remove thorium contaminated materials when encountered to assure protection of public health and the environment.

You also claim in your letter that a risk-based approach for management of radioactive contaminated soils associated with the Lindsay Light Company in the Streeterville area of Chicago to determine remediation is appropriate; that Tronox has been required to clean up materials that do not exceed the numeric cleanup requirements in 40 C.F.R. § 192 due

to U.S. EPA's application of the "as low as reasonably achievable" (ALARA) principle; that gamma radiation is the predominant exposure pathway in Streeterville; and finally that U.S. EPA's verification sampling methodology in Streeterville is unnecessary and overly conservative.

As explained in U.S. EPA's letter to you in April 2007, while we welcome a dialog with respect to the identification, management and removal of thorium tailings and other radioactive contamination associated with Lindsay Light in the Streeterville area, there is no compelling reason to dispense with the health-based radioactive mill tailings cleanup standard of 7.1 pCi/g derived from 40 C.F.R. Part 192 for the Lindsay Light II sites in Chicago that has been consistently applied in Streeterville and West Chicago for over a decade. (See attached April 2007 letter.)

U.S. EPA applied the ALARA principle to the Lindsay Light UAO consistent with its application of the ALARA principle to the Kerr-McGee Residential Area Site and has consistently required cleanup under this principle. Reducing radiation exposures to levels that are "as low as reasonably achievable" has long been a goal of radiation safety programs. The purpose of applying the ALARA principle is to minimize radioactivity releases to the environment and to keep worker and the public's radiation exposures as low as reasonably achievable. As applied in West Chicago and Streeterville it simply involves the removal of hot spots (thorium contamination exceeding 7.1 pCi/g) before verifying an area has achieved the cleanup standard. Wherever the hot spots are accessible, U.S. EPA applies the ALARA principle to remove it so that it does not continue to pose a threat of release to future construction and utility workers. Again, there is no compelling reason to dispense with this approach which is protective of human health and the environment and consistent with the ultimate remedial goal of long-term effectiveness and permanence.

Your claim that gamma exposure is the predominant exposure pathway in Streeterville fails to account for the ongoing development in the Streeterville area. As you know, such development results in subsurface soil excavation and other intrusive activities which create inhalation and ingestion exposure pathways especially for construction and utility workers. Thus, while gamma exposure is an exposure pathway, inhalation and ingestion pathways are also likely exposure pathways during development and maintenance activities.

Tronox's objection to U.S. EPA's verification sampling methodology is unfounded. You are well aware that the vast majority of U.S. EPA's verification sampling events have resulted in findings that the removal has achieved the cleanup standard of 7.1 pCi/g and no further cleanup of the area was necessary. Out of hundreds of verification samples taken over the last decade in Streeterville, U.S. EPA can recall only two samples that failed to meet the cleanup standard. Accordingly, U.S. EPA's verification sampling methodology is not overly conservative; rather, it has time and time again demonstrated successful cleanups.

As stated above, EPA is unwilling to renegotiate the risk-based cleanup standard of 7.1 pCi/g derived from 40 C.F.R. Part 192 for the Lindsay Light II sites in Chicago. Please let me know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Cathleen R. Martiwck". The signature is fluid and cursive, with a long horizontal stroke at the end.

Cathleen R. Martiwck
Associate Regional Counsel

Enclosure

cc: Mary Fulghum (w/o encl.)
Verneta Simon (w/o encl.)
Gene Jablonowski (w/o encl.)